Clark County Department of Building & Fire Prevention
4701 West Russell Road, Las Vegas, NV 89118 ~ (702) 455-3000

Woodworking Occupancies Building Permit Guide

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Part I. General Information

This guide is intended to clarify the minimum Clark County Department of Building submittal requirements to obtain applicable permits for woodworking occupancies that have more than three (3) fixed or table mounted wood sawdust producing equipment or that have a floor area greater than 2,500 square feet. Additional applications and permits such as, hazardous materials, spray finishing, and
similar operations from the Clark County Department of Building and other Clark County entities such as the Clark County Fire Department may further be required.

Part II. Applicant's Responsibility

Applicants are responsible for submitting complete applications with architectural, structural, mechanical, plumbing, electrical, fire protection, and all other pertinent information to demonstrate compliance to all applicable codes and this guideline. It is the responsibility of the owner and design professional to ensure that a diligent design and the application of code requirements are accomplished.

Part III. Prerequisites

General Requirements

Segregation and separation of operations, capturing/ preventing the buildup of dust, and controlling ignition sources are some of the key means for controlling fire and explosion hazards in this type of occupancy.

Segregation and Separation

Woodworking operations having more than three fixed or table mounted wood sawdust producing equipment or having a floor area greater than 2,500 square feet shall be defined as a F-1 Moderate Hazard occupancy as defined by the IBC.

Enclosed locations containing the required dust collector and in similar locations where high concentrations of wood dust may be present is defined to represent an IBC definable H-2 combustible dust occupancy as identified in IBC Section 415.6. Penetrations though barriers installed to segregate dust hazards shall be dust-tight.

Fire Suppression System

An automatic sprinkler system shall be provided throughout all Group F-1 occupancy fire areas that contain woodworking operations in excess of 2,500 square feet in area which generate finely divided combustible waste or which use finely divided combustible materials. Automatic sprinklers may also be required within ducts conveying combustible wood dusts where the largest cross-sectional diameter of the duct is 10-inches or greater.

Mechanical/ Dust Collection Requirements

General:

- Woodworking equipment or machinery located inside woodworking occupancies shall be equipped with a fixed dedicated area dust collection system of sufficient size and capacity to maintain the required airflow and efficiently separate the wood duct from the air before the air is exhausted. This system includes the collection hoods, the exhaust fan, the dust collector, and all ducts, flexible hoses, or other devices used for conveying the material designed and installed in accordance with the requirements of the applicable codes, standards, and this guideline. Listed/ approved portable wood sawdust collectors may be used in limited cases but only when one such collector is dedicated to only one sawdust producing machine with no more than a total of three (3) portable dust collectors present.

System Design:

- Fixed dedicated dust collection systems shall be designed and stamped/ signed by a Nevada licensed mechanical engineer knowledgeable in dust control and dust collection systems. Mechanical plans must be submitted to obtain a mechanical permit.

- The collection system shall use approved listed and labeled equipment suitable to the hazard.

- The airflows and velocities required to capture and transport wood products and dusts, required mechanical equipment, ducting, fans, etc. shall be based on applicable code requirements and this guideline.

  NOTE: Actual minimum airflow velocities shall be based on the specific design.

- Required airflow, duct sizes, system capacity, and similar shall be based on all hoods and other openings (such as floor sweeps) being simultaneously open.

- Clean-out doors shall be included in ductwork to facilitate cleaning and maintenance of the system.

- Dampers, gates, or orifice plates provided for the specific purpose of balancing the airflow shall be fastened and located to prevent inadvertent movement and disruption of system balance.

- If the design includes floor sweeps, a means such as magnetic separators shall be provided to prevent scrap metal from entering the system.

- Ducts and flexible hoses used to convey air and materials as part of dust collection systems shall be constructed of conductive metal and shall be electrically bonded and grounded to prevent the accumulation of static electricity generated by the airflow. Nonconductive ducts such as PVC pipes shall not be permitted.

  Exception: Nonconductive flexible ducts and hoses may be used for final machine connection to the dust collection system in a length not exceeding the minimum required for machine operation provided that electrical bonding and grounding between the woodworking equipment and the dust collection system is maintained.

- Only ducts with a circular cross-section shall be used.

  Exception: Transition to a noncircular cross-section of equal area may be permitted where ducts connect to other equipment or where external obstructions necessitate a noncircular cross-section.

- Dust collecting equipment shall be interlocked with the woodworking machinery power supply so that the woodworking machinery cannot be operated without the dust collection equipment also operating.

Electrical Requirements:

- Electrical system shall be designed and stamped/ signed by a Nevada licensed electrical engineer knowledgeable in the electrical requirements in ordinary and classified hazardous electrical areas as defined by the Electrical Code. Electrical plans must be submitted to obtain an electrical permit.

- All electrical service and equipment including artificial lighting in areas containing dust-producing or dust-agitating operations shall be designed and installed in accordance with the Electrical Code using approved listed and labeled equipment suitable to the hazard.

- Electrical grounding and bonding shall be provided for all electrical power, lighting, and similar circuits. Electrical grounding and bonding shall further be extended to machines, ducting, and similar to reduce/ prevent the accumulation of static electricity.

Part IV. Applicable Codes

Currently adopted version of the following:

- International Building Code with Southern Nevada Building Code Amendments
- Uniform Mechanical Code with Southern Nevada Code Amendments
- National Electrical Code with Southern Nevada Code Amendments
- Clark County Fire Code with Southern Nevada Code Amendments
- NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids
- NFPA 664, Standard for the Prevention of Fires and Explosions in Wood Processing and Woodworking Facilities.

Part V. Submittal Package

Plan Submittal

At the time of permit application, three (3) complete sets of plans, drawn to an indicated scale, must be submitted for review and approval. All plans shall be stamped, sealed, and signed by a Nevada registered design professional practicing in the area of their expertise.

Part VI. Plan Contents

Submitted design package shall include, but is not limited to, the following information:

Architectural Plans:

- Business name, property address, floor and/or suite number and name of business.
- Site plans depicting location of building or tenant space, property lines, building footprint, location of mechanical unit(s), and easements (Include dimension from mechanical units to all property lines and structures).
- Location of the space/ area under consideration.
- The name and anticipated usage of each room.
- Elevation, plan, reflected ceiling and section details as necessary to thoroughly depict the proposed arrangement.
- Parapet or screening methods for both ground-related and rooftop units (Rooftop screening must be architecturally compatible with the building if the equipment extends above the roofline).
- Designate the use of building or tenant space (i.e., office, factory, etc.) and occupancy groups.
- Specify type of construction of the building, location of all fire walls, occupancy separations, etc.
- Identify the type and location of all dust-producing equipment including their adjacent operations, ducting, and equipment.
- Identify required separations of other incompatible processes such as hot work (welding and cutting), open flames, spray applications of painting, lacquer, etc., and similar.

Mechanical Plans:

- Complete system design calculations to include minimum airflows and velocities to be provided throughout all locations of the dust collection/ exhaust systems.
- Equipment layout over the floor plan including their size, gauge, etc. of ducts and outlets.
- Applicable requirements for make-up air.
- A system flow diagram.
- Specifications, applicable listings/ approval, and locations for all exhaust and dust collection systems, fans, filter media, and associated equipment.
- The type of control and interlock systems between the dust collection system(s), the woodworking equipment, and 4 Woodworking Occupancies Plan Review Building Permit Guide BPG-214/Revised 11.08.10 similar systems.
- Dimension distances from proposed exhaust outlet to supply ducts, windows, doors, and property lines.

Electrical Plans:

- Symbol schedule of all symbols and abbreviations used.
- One-line drawing of the complete electrical system showing System voltage, phase configuration, conductor sizes/ types, etc.
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- Electrical and static grounding and bonding details.
- Lighting and power floor plans including fixture types, receptacles, switches, outlets, etc. (identify if new, existing, relocated, etc.
- NEMA enclosure type.
- Identification of any hazardous or classified electrical areas by Electrical Code type.

Part VII. Other Information

Upon completion, the dust collection system shall be inspected, tested, and air balanced by a CCDS acceptable third party special inspection firm knowledgeable of the testing, adjusting, and commissioning of combustible wood dust collection systems to verify that all system equipment and interlocks, required air flows, face and capture velocities, and other requirements are in accordance with the approved design.

Blast gates are to be adjusted to achieve design air flow rates and then fixed and labeled or marked in their respective position to prevent tampering and disruption of system balance.

Department Of Building & Fire Prevention Locations & Services

MAIN OFFICE 4701 W. Russell Road Las Vegas, NV 89118 (702)455-3000	On-Site Plan Submittals All "Walk-Through" Plan Review / Permitting Functions Residential Tract Submittal / Permitting All Sub-Trade (Electrical, Plumbing & Mechanical) Permitting Building Inspection Scheduling Functions Fire Prevention Inspection Services Records	Temporary Certificate of Occupancy Submittals Building Inspections Building Inspector Inquiries Amusement / Transportation Systems Operation Certificates Approved Fabricators Quality Assurance Agency Listing
LAUGHLIN OFFICE Regional Government Center 101 Civic Way Laughlin, NV 89029 (702)298-2436	Building Inspection Services Fire Prevention Inspection Services	
OVERTON OFFICE 320 North Moapa Valley Blvd. Overton, NV 89040 (702)397-8089	Building Inspection Services Fire Prevention Inspection Services	

Automated Phone System (702) 455-3000

Option 1: For all Inspection services or to report a building code violation.
Option 2: For information regarding on-site permits or new plan submittals.
Option 3: For the Building Plans Examination division or QAA information.
Option 4: For the Zoning Plans Examination division.
Option 5: For information or copies regarding land development, construction documents, plans or permits.
Option 6: To speak with Management staff.
Option #: For hours of operation, Office location and website information.

Other Clark County Departments/Divisions/Districts

Air Quality & Environmental Management	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-5942
Public Works, Development Review Services	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-6000
Comprehensive Planning	500 S. Grand Central Parkway, Las Vegas NV	(702) 455-4314
Fire Department	575 E. Flamingo Road, Las Vegas NV	(702) 455-7316
Las Vegas Valley Water District	1001 S. Valley View Boulevard, Las Vegas NV	(702) 870-2011
Southern Nevada Health District	625 Shadow Lane, Las Vegas NV	(702) 759-1000
Water Reclamation District	5857 E. Flamingo Road, Las Vegas NV	(702) 668-8888

State of Nevada

Division of Water Resources	400 Shadow Lane, Suite 201, Las Vegas NV	(702) 486-2770
Nevada State Contractors Board	2310 Corporate Circle, Suite 200, Henderson NV	(702) 486-1100

Utilities

Nevada Power	6226 W. Sahara Avenue, Las Vegas NV	(702) 402-5555
Southwest Gas	5241 Spring Mountain Road, Las Vegas NV	(877) 860-6020

www.clarkcountynv.gov/building